



ESTIMATED IRRIGATION REQUIREMENTS

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ESTIMATED SEASONAL & MONTHLY CONSUMPTIVE USE OF CROPS FOR IRRIGATION CLIMATIC AREA II*/Yellowstone County

ALFALFA

	Total Consumptive Use (inches)	Effective Rainfall (in)	Net Irrigation Requirements (in)
May 1	3.70	1.32	2.38
June	5.70	2.23	3.47
July	7.51	1.30	6.21
August	6.14	1.01	5.13
Sept. 29	<u>2.93</u>	<u>.77</u>	<u>2.16</u>
Seasonal Total	25.98	6.63	19.35

SUGAR BEETS

	Total Consumptive Use (inches)	Effective Rainfall (in)	Net Irrigation Requirements (in)
May 4	1.52	.98	.54
June	3.83	1.88	1.95
July	7.32	1.07	6.25
August	7.14	.93	6.21
Sept	<u>3.55</u>	<u>.81</u>	<u>2.74</u>
Seasonal Total	23.26	5.67	17.69

CORN SILAGE

	Total Consumptive Use (inches)	Effective Rainfall (in)	Net Irrigation Requirements (in)
May 15	.86	.59	.27
June	3.04	1.88	1.16
July	6.38	1.17	5.21
August	6.20	.99	5.21
Sept. 20	<u>2.18</u>	<u>.55</u>	<u>1.63</u>
Seasonal Total	18.66	5.18	13.48

GRAIN

	Total Consumptive Use (inches)	Effective Rainfall (in)	Net Irrigation Requirements (in)
April 16	.32	.23	.09
May	2.77	1.28	1.49
June	6.19	2.25	3.94
July	6.81	1.24	5.57
August 23	<u>1.29</u>	<u>.62</u>	<u>.67</u>
Seasonal Total	17.38	5.62	11.76

**RECOMMENDED PEAK CONSUMPTIVE USE RATES
CLIMATIC AREA II**

Inches/Day @ various net depths of water application

Crop	Net Irrigation Application			
	2" and under	3"	4"	5"
Alfalfa	0.29	0.28	0.27	0.26
Sugar Beets	0.29	0.28	0.27	0.26
Corn Silage	0.24	0.23	0.22	0.21
Spring Grain	0.26	0.25	0.24	0.24

The Irrigation Frequency is computed by the following formula:

$$\text{Irrigation frequency in days} = \frac{\text{Net irrigation application}}{\text{Peak period daily use}}$$

Example: Alfalfa net irrigation requirement in July = 6.21 in
Alfalfa peak period daily use at 3" = 0.28 in/day

$$\frac{6.21 \text{ in}}{0.28 \text{ in/day}} = 22 \text{ day irrigation frequency}$$

***Values used in this fact sheet are taken from the Irrigation Guide For Montana, 1974-USDA Soil Conservation Service.**

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